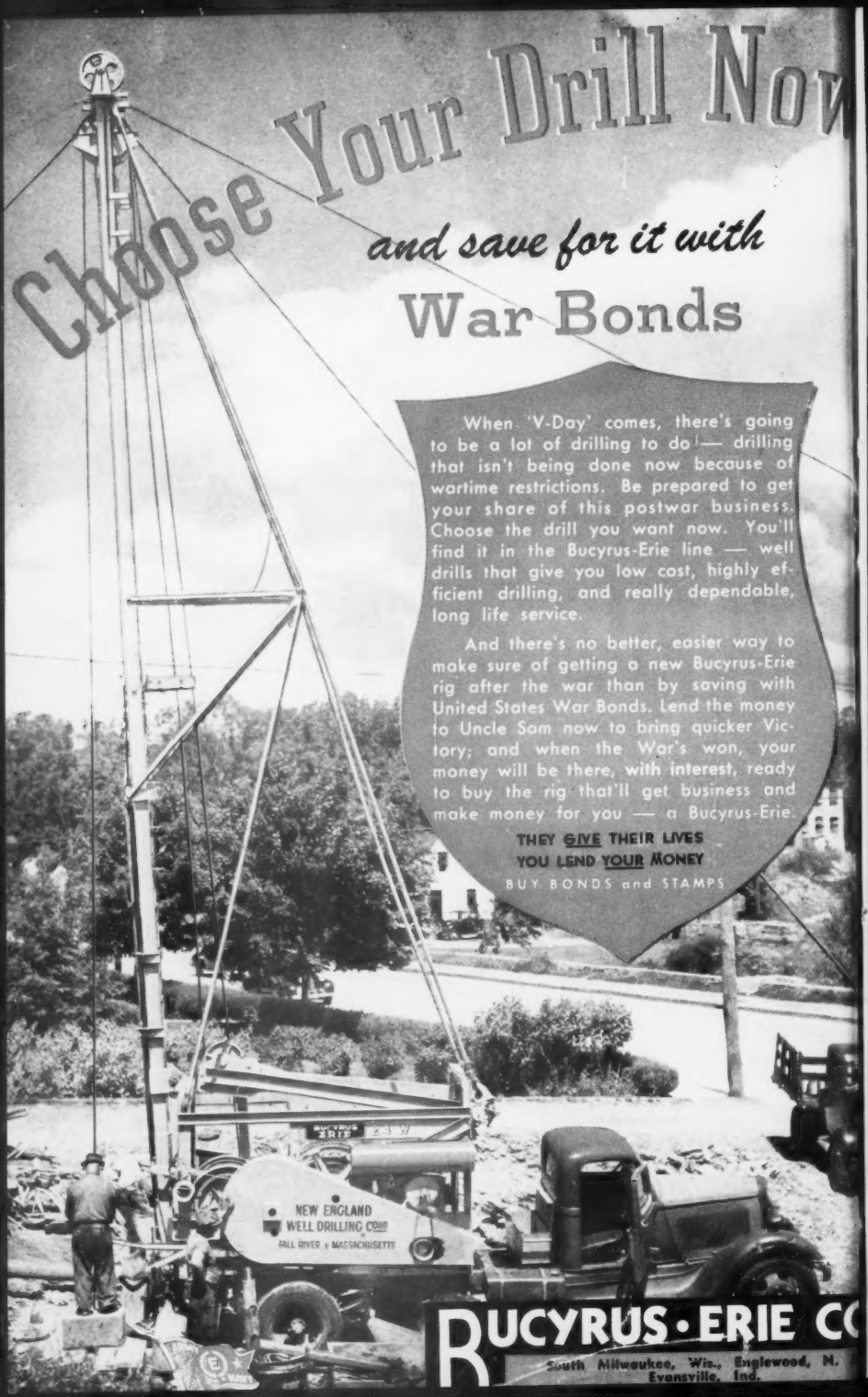
628.11
3

The DRILLER

Water for
Britain's Desert Army
See page 6

COPYRIGHT 1944 BY EXCAVATING ENGINEER PUBLISHING COMPANY — PRINTED IN U. S. A.

JANUARY 1944


Choose Your Drill Now
and save for it with
War Bonds
When 'V-Day' comes, there's going to be a lot of drilling to do!— drilling that isn't being done now because of wartime restrictions. Be prepared to get your share of this postwar business. Choose the drill you want now. You'll find it in the Bucyrus-Erie line — well drills that give you low cost, highly efficient drilling, and really dependable, long life service.
And there's no better, easier way to make sure of getting a new Bucyrus-Erie rig after the war than by saving with United States War Bonds. Lend the money to Uncle Sam now to bring quicker Victory; and when the War's won, your money will be there, with interest, ready to buy the rig that'll get business and make money for you — a Bucyrus-Erie.
THEY GIVE THEIR LIVES
YOU LEND YOUR MONEY
BUY BONDS and STAMPS
NEW ENGLAND
WELL DRILLING CORP
FALL RIVER • MASSACHUSETTS
BUCYRUS-ERIE CO
South Milwaukee, Wis., Englewood, N.
Evansville, Ind.

Over there . . . pumps from the COOK assembly lines give aid and comfort to our FIGHTERS FOR FREEDOM.

Over here . . . Uncle Sam has the call; but the needs of COOK dealers and users are always in mind. When priorities permit, orders are filled. At all times recommendations are offered for the care of COOK equipment to give best and longest service.

DEEP-WELL COOK PUMPS

A. D. COOK, Inc.
Outfitters for Wells
LAWRENCEBURG, INDIANA

GENUINE COOK WELL SUPPLIES

628.11
3

IDEAS

Help Brin

THE AMAZEMENT which onlookers expressed when they saw 8-inch casing being jacked up "automatically" from a well at Traverse City some years ago, is typical of the reactions which the ideas of the Riegler Water Well Drilling firm of Muskegon, Michigan, have occasioned.

In this particular instance, the casing was merely being jacked back by a pair of home made Riegler hydraulic pump jacks—capacity 100 tons with 5000 pounds of fluid pressure provided by a power unit. It wasn't unusual to the Rieglers for they knew the answer, but to onlookers the casing appeared to be coming up all by itself—hence their reaction.

• (Above) Developing a well with the favorite Riegler method—compressed air. (Left) The adjustable "landing gear" on the Bucyrus-Erie 22-W is a Riegler idea. (Below) Shown with some of their equipment in front of their shop are (left to right) Ole, Bernard, and Leo Riegler.

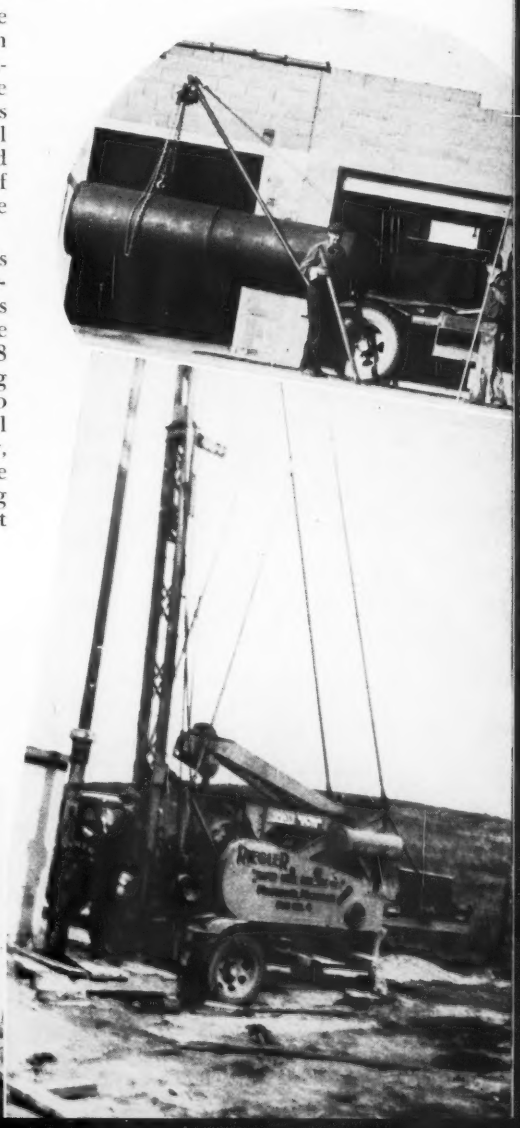
As always, these Muskegon drillers are planning for the future — a future in which they foresee a real postwar drilling boom. Prominent in their plans are the kinds of ideas that have brought them growth and success in the past.

nDrilling Success

The hydraulic jacks are just one of the many ideas which have been put to work by the Riegler Company to make jobs easier and more efficient. Adjustable landing gears for rigs, an "A"-frame boom, special semi-trailer mountings—these and other "wrinkles" are examples of the Riegler ingenuity. But more about that later.

"Riegler Water Well Drilling" is the name this Muskegon partnership of a father and two sons goes by. The senior partner is dad—Ole Riegler — who has spent some 38 years in the water well drilling game. At first it was a sideline to farming but later it became a full time job. How "full" the job is now, can be seen from the way telephone calls keep coming in all day long every day at the Riegler office just

(Continued on page 12)



• (Right) Leo works on an 8-inch well for a gas company. A 134-footer, the well was drilled in 1942. (Above) Here's a Riegler idea at work: an 'A'-frame boom makes lifting and moving large tanks, casing, pumps, etc., an easy matter.

• Royal Engineers busy relaying a water pipe line immediately after British occupation of El Daba.

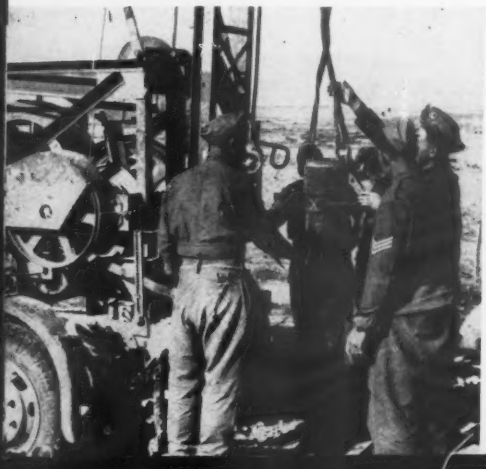
Water for Britain's Desert Army

Water was a vital factor in keeping the 8th Army rolling on to Victory in North Africa, and the job of drilling wells and constructing pipelines fell to the Royal Engineers.

By an Officer of Britain's Royal Corps of Engineers

(Reprinted from CONSTRUCTION METHODS, October, 1943)

• One of the most important jobs of Royal Engineers was to tap desert sands for water supplies. Here a group lowers casing into a desert well.



FROM THE BEGINNING of the Egyptian and Libyan campaigns great stress was laid on the difficulties of getting adequate water supplies to forward troops. Water supply is largely a responsibility of Britain's Royal Engineers, and magnificent work has been done by sappers in Egypt.

At the beginning of September, 1941, there was no continuous water pipeline forward of El Daba, over 80 mi. west of Alexandria. There existed a small local supply at Mersa Matruh, more than another 80 mi. further west, but this only partially supplied the needs of the

garrison. Vast supplies for the forward troops had to be brought up daily by rail and sea and kept in local reservoirs near Matruh. All requirements forward of Matruh had to be supplied by water trucks filled from the Matruh reservoirs.

Britain's forward troops were at this time in the neighborhood of the Libyan frontier, preparing for the advance which linked them up with Tobruk garrison and drove the Axis armies for the second time back to El Agheila on the gulf of Sirte.

Vastly increased demands for water were inevitable, and the General Officer Commanding Western Desert Force asked that a water pipeline should be constructed from El Daba to Sidi Barrani.

(Continued on page 18)

• When the enemy retreated in North Africa, he destroyed wells and other sources of water, so sappers had to drill new wells as the British 8th Army advanced. At the right, Royal Engineers are shown bailing out a well at Nufilia. Below, troops pump water from a desert well into cans which are then loaded on lorries.

The DRILLER

A JOURNAL FOR WATER WELL DRILLERS

Published every month by:
Excavating Engineer Publishing Co.
South Milwaukee, Wisconsin

Single copies 25 cents
Subscription price $1.00 per year.
Canada and Foreign. $2.00 per year.

F. O. Wyse, Publisher
Arnold Andrews, Editor
M. B. Jaeger, Assoc. Editor
E. M. Heuston, Sales Manager

Consulting Editors
G. R. Watson **W. J. Walsh**

Address Communications to:
The Driller, South Milwaukee, Wis.

Vol. 18 January, 1944 No. 1

Opportunities for State Associations

By Marvin L. Parkhurst

General Manager, Parkhurst Well & Pump Company, Verona, N. J.

MR. SHAKESPEARE once wrote that there is a tide in the affairs of men which, if taken at the flood, leads on to Victory. Omitted, all the rest of their lives are bound in shallows and miseries.

The opportunity which faces State Water Well Drillers Associations today represents a tide at its flood. Few periods will offer as good an opportunity to test the true worth of State Associations in terms of the actual benefit they can produce. Today's opportunity comes as the result of existing world conditions which have created a general need among drillers for a free exchange of knowledge and ideas. This need for mutual aid comes at a time when driller's mental attitudes toward their competitors make for close cooperation.

When work is scarce, competition in business often becomes overly keen and when competition is too keen, individual mental attitudes make close cooperation almost impossible. When times are too good, on the other hand, and living is too easy, many drillers find no need for cooperation and thus have little interest in actively contributing to a live wire state association. Today, however, most of the drillers throughout the country have as much business as they can possibly handle. Yet at the same time they are generally faced with a variety of new problems which are common to small business in war time. For instance, most drillers must find ways and means of retaining as much of their manpower as possible in the days to come. They must also determine how best to continue to procure needed materials for their customers and themselves. They must arrange for the proper maintenance of their equipment and, above all else, determine how best to continue to cope with the tremendous number of government regulations and restrictions which contribute to bigger and better daily headaches.

In each one of these problems and in similar problems, a live wire drillers association has much to offer. In fact, it was the conditions surrounding the first world war that brought many of the outstanding trade associations in other fields into their present state of being. At that time a great number of intelligent business men who found themselves beset by a multitude of prob-

(Continued on page 21)

Sell DEMING FOR Values!

DEMING JET PUMPS

FEATURES

1. Shaft with true aligning compression type coupling.
2. Renewable impeller wearing ring.
3. Renewable guide bushing.
4. Patented sealing packer for single pipe ejector.
5. Threadless pressure pipe connection in pump casing.
6. Automatic regulator on every pump.
7. Quiet operation—only one moving part.

People who plunk the cash on the counter for pumps and water systems want VALUES!

VALUES are not *"cheap prices"* or *"cheap talk"* that mean nothing to the buyer.

REAL values are FEATURES engineered to give the customer what he wants, namely—

Running Water in the required amount at the needed time at low cost per gallon.

Deming Pumps and Water Systems are *ENGINEERED*—not just built—to assure your customers the MOST REAL VALUE for every pump dollar.

With the *COMPLETE* Deming line and the *VALUES* built into every Deming Pump and Water System, you have what it takes to SATISFY EVERY CUSTOMER!

DEMING

THE COMPLETE LINE

PUMPS AND WATER SYSTEMS

The Deming Company · Salem, Ohio

NEWS OF THE MONTH

Wisconsin Allows Reclaimed Pipe

THAT THE use of reclaimed pipe is being allowed in construction of wells in Wisconsin, is revealed in an announcement by the Wisconsin State Board of Health. At its meeting on November 13, the Board adopted a regulation permitting use of reclaimed pipe, provided it has been inspected and approved by the Board, and an inventory of amounts and sizes has been filed with the Board.

Applications for 1944 renewals of Wisconsin well construction permits must be made before March 1, 1944, the announcement also points out. Permits for 1943 expire December 31, but a two-month period of grace is allowed.

Add to Line

TEMPLETON, Kenly & Co., Chicago, has added tandem-pump, Simplex 30-ton and 50-ton hydraulic jacks to its line. Up to this time, a 20-ton capacity was the largest hydraulic jack made by this company. The manufacturer describes these hydraulics as having high and low speed pumps, which can be operated singly or in unison. The base is made of special analysis solid steel bar stock. The jacks have two release valves located on opposite sides of the base for the convenience of the operator. Either release screw controls ram return. The carrying grip is an integral part of the high speed pump. They can also be carried by two men by inserting the jack lever through both pump handle sockets.

Model 30HJ—capacity 30 tons; low height 11″; hydraulic lift 7″; weight 65 pounds.

Model 50HJ—capacity 50 tons; low height 12″; hydraulic lift 7″; weight 115 pounds.

Free Folder

AN 8-page folder giving descriptions of seven Clark Adjustable Cutting Tools is available free from the Robert H. Clark Company of Los Angeles, California.

The folder describes a new counterbore and spotfacer, a three-blade adjustable hole cutter, a two-blade surface facer, a two-blade fly cutter, an adjustable gasket cutter, and a thread tool-grinding fixture.

The address of the Clark Company is 3424 Sunset Boulevard, Los Angeles 26.

Water Systems Group Adopts Postwar Program

WITH the object of assuring the production of about 500,000 electric water systems in the first year after Victory, a comprehensive industry-wide program of postwar planning was adopted at a meeting of the National Association of Domestic and Farm Pumping Equipment and Allied Products Manufacturers at the annual meeting in Chicago on October 15.

The goal of the program represents a substantial increase in the production of electric water systems

over the peak prewar year of 1941 when more than 347,000 electric water systems were manufactured and sold, according to Herbert C. Angster, secretary-director.

The objectives of the program are to provide useful peacetime jobs for the armed forces and civilians immediately after the end of the war and to enable dealers to meet the expected unprecedented demands for water systems from farmers, suburban residents, and other sources, as well as the export market.

Following is a summary of a few of the points in the postwar program:

It is recommended that each individual manufacturer measure his productive capacity and financial capabilities to ascertain whether he has capacity for taking care of an increase of from 30 to 50 per cent in volume over 1941 production during the years immediately following the end of the war.

It is recommended that there should be a study of the trends in, and uses for, water supply equipment and a report made to members of the industry.

It is recommended that the industry investigate the abilities of all sources of supply for raw materials and component parts to furnish them in the quantities required to meet postwar needs.

The recommendations for postwar planning adopted by the domestic and farm water supply industry were drawn up by a committee consisting of C. D. Leiter, sales manager, The F. E. Myers & Bro. Co., chairman; Karl M. Brower, sales manager, The Dayton Pump & Mfg. Co.; Henry T. Park, vice president, Flint & Walling Mfg. Co.; and

(Continued on page 20)

Back your work with a JENSEN!

Make sure you get credit for a good well—recommend a JENSEN Pumping Unit. A JENSEN Unit makes water from any good well cheap and dependable, and keeps it that way. JENSEN Water Well Pumping Units are doing a highly satisfactory war-time job for cities, farms, ranches, rice plantations, camps and industrial plants all over the country. And why not? Time and experience—25 years of both—go into every JENSEN. There is one to lift any volume of water from wells of any depth. Write for Bulletin No. 26.

JENSEN BROS. MFG. CO.

14th and Pacific Streets, COFFEYVILLE, KANSAS, U. S. A.

EXPORT OFFICE: 50 CHURCH ST., NEW YORK CITY, NEW YORK

Ideas . . .

(Continued from page 5)

outside the western limits of Muskegon.

The other two partners are the sons, Leo and Bernard. The latter is the older of the two. Both of these boys—as Ole still calls them although they're every inch men—grew into well drilling as naturally as cubs become bears. They started being helpers when in school and have worked at drilling exclusively ever since.

Each of the partners leads a separate drilling crew and specializes in wells of a certain type, although there's plenty of discussion and advising between the partners. Four or more men are employed as helpers to round out the crews.

Equipment of the company includes three drilling rigs, three trucks, and a flat-bottomed semi-trailer. The rigs are a Bucyrus-Erie 22-W, an Armstrong No. 35, and a small home-made rig for small wells.

Leo's crew usually handles the work of the 22-W, which includes wells from 8-inch to 12-inch diameter, and gravel-packed wells up to 50-inch. Ole ordinarily directs the jobs of the Armstrong, which range from 3-inch to 8-inch wells. Bernard usually specializes in the small 2-inch to 3-inch wells, using the home made rig, and repairs electric pumps. In pointing this out the Rieglers hasten to add that there's nothing definite about the arrangement, however, and that actually each of the partners is vitally concerned in all of the types of wells drilled.

The Riegler "ideas" crop up again in the manner in which their rigs are mounted. All three of them are mounted on semi-trailer outfits with adjustable "landing gears." This arrangement permits detaching the trucks from the rigs, allowing use of the trucks in transporting men and equipment to and from the well locations. The adjustable landing gears also permit raising the back end of the drill to any desired height within the limits of the landing gear shafts.

An Ingersoll-Rand air compressor is another item of equipment. It finds almost constant use in cleaning out old wells, and in the development of new wells, for the Rieglers find the compressed-air method of finishing wells the fastest and the best for their jobs.

For Loading Tanks, etc.

Another handy device for which they constantly find use is an "A"-frame boom. This unit, which they can easily attach and detach from their trucks, proves its value in loading and unloading tanks, pumps, and large diameter casings for gravel-packed wells, of which they have put in ten so far this year—and that's only a small percentage of their total year's work.

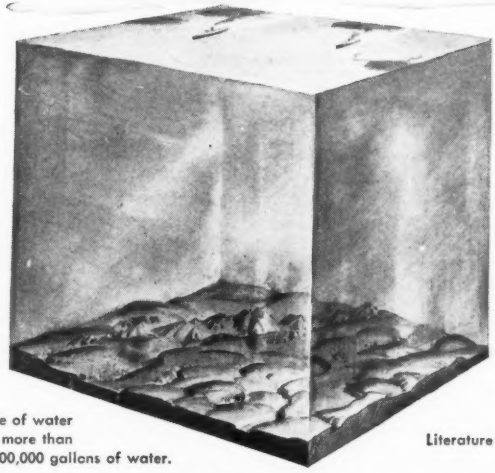
The Riegler wells pretty well run the gamut of different types, including farm, suburban, city, industrial, irrigation, and air conditioning. These wells range from 2-inch to 12-inch, and total about 7500 to 8000 feet per year. This year the 8-inch wells have been most numerous, ranging in depth from 60 to 200 feet. Six to 10-inch irrigation wells for fruit orchards comprise an important part of their business.

Although the gravel-packed wells are not numerous, the methods by which the Rieglers put them in are interesting. If you visit the Riegler shop, Ole is bound sooner or later to point out to you an orange-peel bucket which is part of their equipment.

"You don't see many drillers who use something like that, do you?"

WANT A CUBIC MILE OF WATER?

See Peerless



★ A cubic mile of water is equal to more than 1,101,000,000,000 gallons of water.

Literature upon request.

That's a fantastic amount of water—more than eleven hundred billion gallons—but ten giant Peerless Hydro-Foil Pumps could do this job in a year. Maybe you only need 10 gallons a minute. There's a Peerless Hi-Lift Pump that will produce this amount, too. In between this wide range of capacities are the Peerless Turbine Type Pumps—with either oil or water lubrication, any form of drive. So, regardless of the capacity of water you need, Peerless has a pump for the job. Peerless Pumps are made in a variety of types, with oil or water lubrication and any power drive to pump water from any depth.

PEERLESS PUMPS

TURBINE, HI-LIFT AND HYDRO-FOIL

PEERLESS PUMP DIVISION of *Food Machinery Corporation*

301 W. Avenue 26, Los Angeles, 31, Calif. ★ 1250 W. Camden Ave., S. W., Canton, 6, Ohio

OTHER FACTORIES: San Jose 5 and Fresno 16, Calif.

Service Offices and Special Agents in Principal Cities

smiles Ole. Then he goes on to tell you that the bucket is rigged on to the 22-W and used in digging hole for large diameter gravel-packed wells, doing the job in a hurry. A grader for sorting the gravel to proper size for use in such wells is also a standard item of equipment in the Riegler shop yard.

Most of the area around Muskegon is glacial drift country, and usually it's not difficult to find a plentiful vein of water-bearing gravel not far from the surface. There's plenty of sand, too, making screens a "must" in most of the wells drilled near Muskegon. Clay and sandstone are also commonly encountered.

Serve Broad Territory

But the Riegler drillers don't confine themselves to the Muskegon area. Just recently they completed two 8-inch wells at Reed City, about 100 miles north of Muskegon. They've also ranged as far north as the Straits of Mackinac, and have put in a good many wells at intermediate points—in fact, they've hit just about every section in the northern part of lower Michigan.

They occasionally branch out southward, too, and a while ago they obtained a contract for a well job down in Valparaiso, Indiana.

One of their jobs in the tip of lower Michigan at Black Lake involved one of the toughest problems they've ever run into. It was a 6-inch well for a CCC Camp, requiring a screen. Hitting a good vein at 186 feet, they ordered a 7-foot screen to put in opposite the vein. But when they began pulling casing their trouble began, for they broke it off at four different points, the last time at the 90-foot level, and they managed to salvage only 90-feet of casing. They then drilled an offset well which was completed, and obtained an artesian flow of 100 gpm.

One of the larger customers of the Riegler firm is the Gerber Products Company, makers of baby food, of Fremont. So far the Rieglers have put in four producing wells for this company and several test wells. One of these can be listed under the heading of "unusual." Drilled in March, 1942, this 8-incher was the first well on which the Riegler Company used its new Bucyrus-Erie 22-W and the 22-W gave them a real performance, going down 738 feet in a short time. At that depth they found plenty of water but it was hard, brackish, and salty, and of course, unsuitable. A usable, though not as plentiful, water stratum occured at 352 feet, so they were forced to plug back and cement off at that depth and use that vein instead. They installed 10 feet of 8-inch strainer, and finished the well with a combination gas and turbine pump, set at the 140-foot setting, and obtained a flow of 100 gpm. Yet this well will flow 15 gpm when the pump is not operating.

Complete Shop

The shop which the Riegler firm works out of is a complete layout, including machine shop, blacksmith shop, warehouse, and office. The machine shop is equipped with lathes for cutting and shaping parts for pumps, rigs, and well installations. The blacksmith shop is complete for hand dressing of bits. The warehouse is stocked with drilling and fishing equipment, as well as new and used casing. Some of their material is also stored in the shop yard, and it's not unusual to see a couple of good-sized used tanks and supplies stored just outside the building.

They maintain a small but complete office, too, employing a full-

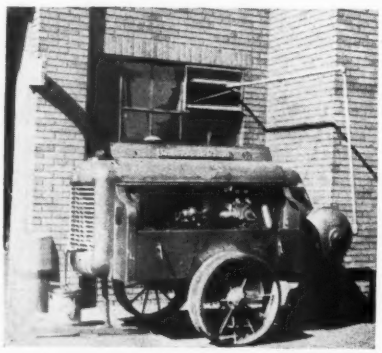
time office girl to handle correspondence, records, telephone calls, reports and so on. Complete well records and accounts are kept in a large filing case, making them constantly available at a moment's notice.

The Rieglers handle a comparatively large volume of pump business, selling both new and used pumps of all types for water well systems. They've felt the effect of the war on this end of the business, finding some types difficult to obtain. By ordering various brands, however, they've managed to keep abreast of demands.

There's a definite Riegler policy in regard to used pumps. Whenever they take in a pump that's seen service, they make it a point to give the pump a thorough overhauling before selling it, even to the extent of giving it a new paint job before permitting it to go out. In this way they know what they're selling and are in a position to guarantee used equipment as well as new.

This policy makes for satisfied customers and that's what the Riegler Company aims to make in all its work—and succeeds. The quality of Riegler wells is so well known in the Muskegon region that quite frequently they are given jobs for which their bids were considerably higher than those of competitors. Prospects know that when they get a Riegler well, they get a good one, so they're willing to pay for it. "We don't try to get jobs by making extremely low bids. Instead we size up the job and quote the price that will permit us to do a first-rate piece of work—and usually get the job," explains Leo.

• The Rieglers use an Ingersoll-Rand air compressor to clean out a dairy well in Muskegon.



Repeat Business

That's the backbone of Riegler advertising: work that advertises itself. "A good deal of our work is repeat business," Bernard points out, "and other prospects figure that if former customers want us to do a second and third job for them, our work must be good." The reputation for good work and the recommendations of former customers bring in almost all of the business the Rieglers do, so that canvassing is an exception rather than a rule. That's one reason why they don't do a great deal of advertising in the usual sense of the word. Of course, their equipment is all prominently lettered and its gets around enough to tell a good many people about the Riegler firm. And if you look up the company's telephone number in the Muskegon directory, you see "RIEGLER WATER WELL DRILLING" listed in bold-face capitals. But for the most part, the good will engendered by good work is the thing that does the most to advertise Riegler work and bring in well jobs.

Does it work? Well, when the DRILLER representative was visiting the Rieglers, here's how things stacked up: The Armstrong 35 was drilling a farm well 10 miles from Muskegon and was booked for other jobs well into the winter; the small

home-made rig was putting in a well for a Federal Housing project near by, and it too had plenty of jobs ahead; and the 22-W had just finished one job and had three others to choose from for its next stint—a 50-inch gravel-packed airport well, 200-foot 8-inch village well for Hesperia, and other 200-footer, this one an 8-inch manufacturing company at Fruitport. Besides, each day was bringing more phone calls, almost all of which ran something like this: "When can you drill a well for me?"

Some of these calls don't result in jobs because in some cases the prospects can't get the required priorities, but for the most part the Rieglers find that priority regulations for well drilling are now sufficiently well-defined to permit keeping in operation with a minimum of delay. "We've been fortunate in that most of our customers have been able to get the necessary ratings, so the set-up hasn't worked any hardships," explains Bernie.

"After the war? 100%!" says Ole emphatically. "We're going to see a boom in drilling like none we've ever had before. Just look at air-conditioning. We just got started scratching the surface of this field when the war broke out and stopped it. When this business with Hitler and the Japs is over we're going to have air conditioning right and left. And all the other types of wells will increase, too—farm, suburban, irrigation, industrial. Yes, sir, it'll be a boom period."

You can bet that the Rieglers will be in the thick of the boom, too. Each of the partners, Ole, Bernie, and Leo are thinking right now of ways to handle postwar business. Their plans since they began have always been characterized by one word: growth. You can look for more of the same for Riegler Water Well Drilling after the war.

WIT BITS

Bobby: "Mom, the ladder in the back yard fell down."

Mother: "You better tell your father."

Bobby: "I don't need to. He's hanging from the window sill."

An old man who was everlastingly complaining about his feet hurting was asked if his shoes weren't too tight.

"Yes, they are," he replied.

"Then, why don't you get larger shoes?" asked the stranger.

"Well, you see it's this way," replied the old man. "My wife is dead, my son is a loafer, my daughter eloped with a bum, my automobile tires are worn out, and the finance company has taken my radio back, so about the only pleasure I get out of life is to get home and take these darned shoes off."

Plumber (arriving late): "How have you managed?"

Householder: "Not so badly. While we were waiting for you to arrive I taught the children how to swim."

Very Stout Lady (to little boy): "Can you tell me if I can get through this gate to the park?"

Little Boy: "I guess so. A load of gravel has just gone through."

"Dear, don't you like the college pudding I made?"

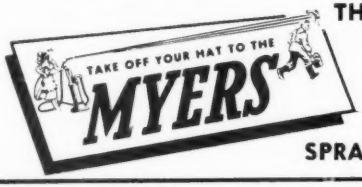
"To be frank; my love, I do not. It tastes like one of the eggs in it should have been expelled."

PUT A GOOD PUMP ON A GOOD WELL--

and Avoid Trouble!

What happens when you drill a good well—and install a pump? Whether it's a good pump or a poor one, you are held responsible for its operation. Whether you obtain it from a pump dealer as a convenience for your customer—or whether you handle pumps and take a complete contract job—it's your responsibility.

That's why it pays to recommend and install dependable Myers pumps. They're quality pumps—built to last longest and require least servicing. Everyone knows Myers pumps. You don't take chances with your reputation as a good well driller when you install a Myers. Plan now for the good days ahead. Write us for new free folder on Myers pumps and water systems.



THE F. E. MYERS & BRO. CO.
230 Church St., Ashland, Ohio

7WS4

PUMPS • WATER SYSTEMS
SPRAYERS • HAY UNLOADING TOOLS

Desert Army . . .

(Continued from page 7)

On September 6 orders were issued by General Headquarters for the pipelines to be laid from El Daba to a point 30 mi. west of Matruh, some 45 mi. short of Sidi Barrani.

At this date a large filtration plant, capable of supplying 5,000 tons of water daily, was under construction at a point about 15 mi. south of Alexandria, and the new supply, together with that already available from Alexandria, itself, was calculated to be sufficient for forward needs. Extensive and complicated work in duplicating the existing Alexandria-El Daba pipeline was put in hand.

It was also decided that seven pumping stations and reservoirs should be constructed between El Daba and the proposed new pipe head. At the same time, to guard against any danger of shortages, an undeveloped source of water was opened at Fuka between El Daba and Matruh, to supplement the flow from Alexandria.

Pipeline Extended 30 Miles West

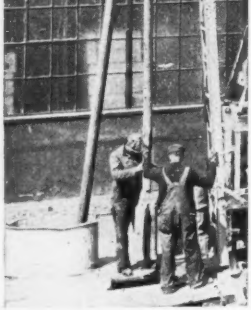
All this work was scheduled for completion by October 30, 1941. On September 25, however, when everything was well under way, additional piping arrived in Egypt and it was decided to extend the proposed pipeline a further 30 mi. to the west, to the top of the escarpment.

The work still had to be finished by the end of October, so the Royal Engineers were faced with the task of laying within two months 145 mi. of mixed pipe, with seven new pumping stations and ten large reservoirs.

As preparations for the attack

You'll get **MORE FOOTAGE**
per day when you use
ANDREWS STEEL

The ability of drilling tools, forged from ANDREWS Steel, to take punishment and give unfailing service under the most severe conditions of wear and abuse, is the result of Andrews' years of experience in the production of special high grade steels, modern equipment and exact metallurgical control over every step in production from the selection of raw materials to the finished billet. When your drilling tools are forged from ANDREWS Steel you enjoy the profitable advantage of reduced footage costs and other time, labor and money-saving economies. Write for detailed specifications and data on ANDREWS Well Bit and other Steels for the drilling industry.



THE ANDREWS STEEL CO.
NEWPORT, KENTUCKY
DIVISIONS
THE NEWPORT ROLLING MILL COMPANY
THE GLOBE IRON ROOFING & CORRUGATING CO.

were in full swing, every train was fully loaded with combat stores and equipment, and it was only with extreme difficulty that the pipes and water stores could be transported. Labor was in such great demand that engineer parties were unable to obtain much of the unskilled labor they needed. The result of this was that all available engineer and pioneer troops had to be put on the work at very short notice. In all, some 2,000 sappers, and about as many Palestinian and native pioneer troops were employed.

From El Daba to the originally proposed pipe head, the line was laid close to the coast road and railroad. This was easy going, but for the last 30 mi. the pipe had to be carried across soft sand, which entailed extremely laborious work. Special tracks had to be cut in the desert for the truck convoys. The traffic was heavy and the desert so soft that it was necessary to cut a new track every day the pipe-carrying convoys were at work, which resulted in about 25 parallel tracks being cut.

The pipe reservoirs and pumping stations were completed on time. The next task was to fill the pipeline, for that had to be done to start delivery. Three thousand tons of water was needed for the western sector alone. This was brought by sea to Matruh, while the eastern section of the pipe was filled simultaneously by pumping from Alexandria.

The filling process took four weeks, during which period sapper parties were continuously working on blockages, leaks and air locks. On October 15, 1941, exactly according to the program mapped out by the engineers, the new source at Fuka began to deliver supplies of water. This was used to supplement

WINDMILL DOCTORS
ON THE JOB!
Recent storms, some reaching tornado intensity, mowed a swath of windmills through the Plains states. Baker Mfg. Co. quickly scouted the entire area, discovered that over 5,000 windmills had been disabled. When the call came from distressed farmers, Baker was ready. Monitor Windmill replacement parts and towers were rushed into the storm-stricken states in cooperation with federal officials. They were placed through Monitor dealers, who supervised the repair of damaged windmills, reconditioning and erection of new towers. Farmers throughout this area will never forget the help given them.
In your territory may be similar cases where windmills are urgently needed. Monitor will bend every effort to furnish repair parts (no ration certificate needed) or new windmills and towers (certificate MR-22) where possible. Monitor is on the job!
Monitor
SKY POWER WINDMILLS
WINDMILLS
PUMPS
PUMPJACKS
WELL SUPPLIES
• BRANCHES •
BAKER MFG. CO.: Minneapolis, Minn.; Madison, Wis.; Fort Dodge, Ia.; Cedar Rapids, Ia.; Omaha, Neb.; Kansas City, Mo.; Enid, Okla.; Hutchinson, Kansas
AXTELL CO.: Fort Worth, Tex.; Amarillo, Tex.; Lubbock, Tex.; San Angelo, Tex.
BAKER MANUFACTURING CO., EVANSVILLE, WIS.

the supplies being landed at Matruh.

Pipelines Are Camouflaged

While filling was going on, other engineer and pioneer troops were busy camouflaging the new pipelines. All obvious excavations were filled in and reservoirs were concealed. Dummy pipelines, reservoirs and pumping stations were constructed with such success that enemy bombing attacks were drawn to the dummies, while the real objects were left untouched.

On October 30 the pipeline was complete and a large water point was opened on the escarpment 30 mi. south east of Sidi Barrani. The advantage of pipeline was felt immediately, as one water convoy was now able to supply forward troops where six had been required under previous conditions. The supply of water at this point and further back was found to be so abundant that the needs of all troops, vehicles and locomotives were met without difficulty.

The construction of this water pipeline was a magnificent achievement. About 145 mi. of pipe, together with materials for 7 pumping stations and 10 large reservoirs, were brought from dumps in the Nile Delta and laid down in the desert ready to deliver water. And this was done, counting from the moment orders were issued in Cairo, in 56 days. This great feat was accomplished under most difficult working conditions.

Tasks of like nature are being carried out by Britain's Royal Engineer units all over the world. Sometimes they are recognized, sometimes they pass unnoticed, but however hard the job may be, to the sapper it is just part of the day's work.

HELP
Put Over the Fourth War Loan

BETTER WATER SUPPLY **THE "AURORA WAY"**

DEEP WELL

The complete line of Aurora Centrifugal and Apco Turbine-Type pumps — the product of experience — enables you to meet every water supply problem for Municipalities • Industries • Farms • Homes • Estates • Institutions . . . with Lasting Efficiency, Dependability and Economy for Deep or Shallow Wells.

SHALLOW WELL

BUY WAR BONDS

Write for **CONDENSED CATALOG M**

Distributors in Principal Cities

AURORA Always PUMPS

AURORA PUMP COMPANY

58 Loucks St., Aurora, Illinois

Postwar . . .

(Continued from page 11)

Walter Deming, treasurer, The Deming Company.

The following officers were elected by the National Association of Domestic and Farm Pumping Equipment and Allied Products Manufacturers at the meeting on October 15: L. E. Wilson, president, The Everite Pump & Mfg. Co., Lancaster, Pennsylvania, president; W. T. Hatmaker, president, Duro Co., Dayton, Ohio, vice president; John P. Curtin, vice president, George D. Roper Corp., treasurer; and Herbert C. Angster, secretary-director.

Opportunities . . .

(Continued from page 8)

lems similar to those which present themselves today, deemed it not only desirable but a matter of necessity to organize for mutual protection.

Unfortunately, some drillers do not want an association where too close cooperation exists. They feel that in too free an exchange of ideas, they might be called upon to give up some of their so-called personal secrets to which they attribute their individual success. These drillers fail to realize that the intelligent business man has nothing to lose but has, on the contrary, much to gain by a comparison of experiences with his competitors. For instance, in a group of twenty drillers exchanging "trade secrets," each gives up one secret and gains nineteen.

In our own New Jersey Well Drillers Association, our President, Mr. J. J. Reilly of Verona, who has always been a firm believer in close cooperation among the members of the state organization, is now demonstrating the real advantages to be obtained. For instance, on October 28, Mr. Reilly called the first of a series of meetings, at which individual members will be called upon to talk on timely subjects. The topics assigned for the first meeting were "Price Ceilings" as they apply to service organizations and to the sale and rental of pumping equipment; "Wages and Hour Rulings, and interpretations; "Priorities" and "An Outline of the Local Union Set-up" and its advantages.

The next meeting of this series has been set for February at which time other members will be given topics to develop pertaining to the needs of the day.

In assigning topics to individual members, Mr. Reilly gives the individual driller an opportunity either to prepare an informal talk or prepare a paper to be read. Each member has from three to five minutes at his disposal and a short discussion period follows each member's presentation.

At the next meeting of this series, the New Jersey Association plans to invite all drillers operating within the State whether or not they are members of the Association. It is hoped that out of this present close cooperation will grow the basis for even greater cooperation in the post war days. For instance, tentative plans are underway for cooperative purchasing, for cooperative repairs of equipment, and for the cooperative exchange of special tools at prices below those which the individual driller would have to pay outside of the organization.

Thinking again in terms of the State Drillers Association throughout the country, it would seem that many now stand at the cross roads. They can either discontinue meetings for the duration through failure to recognize today's unique opportunity, or, they can go forward and capitalize on past gains by having frequent meetings which will lead to mutual benefits now and even closer cooperation in the post war days ahead.

The National Foundation for Infantile Paralysis supports programs of research seeking the cause, prevention and cure of the disease in more than two score universities, hospitals and laboratories with the dimes and dollars given during the March of Dimes January 14th to 31st.

BARGAIN COUNTER

To the reader who wishes to advertise used equipment in "Bargain Counter" Section.

All advertising in this section is payable in advance. Enclose your check or money order with copy. Rate: 30c per line. Minimum charge $1.20. No discounts; no commissions. Read these instructions carefully. The average line contains 28 characters (20 characters if all capital letters are used). Count spaces and punctuation as one character each. Allow 10 characters for box number if blind advertisement is desired. Count your own copy to save delay. Holding up your advertisement one month to secure approval of revised copy or an additional remittance, may cost you real money in a lost sale. Be sure to enclose the correct amount of money with your order. Closing date—10th of preceding month. Example—January issue closes December 10th.

To the reader wishing to answer "Bargain Counter" Section advertisements appearing on these pages:

Be sure to address your inquiry to the advertiser by using the correct box number. Mail your letter in care of THE DRILLER, South Milwaukee, Wisconsin. Write each advertiser a separate letter. Do not write us for name and address of advertiser. This information will not be given out. We have no information about the equipment advertised other than that shown in the advertisements themselves.

DRILLS

ARIZONA . . . Keystone 1000' machine. Wood frame, 4 cyl. Waukesha, 4 to 12" tools, semi-mtd. on 5-speed truck. 42' derrick. Gaudet, Rt. 4, Box 248, Phoenix, Ariz.

NEW YORK. Keystone 1½ drill, wood frame, derrick with Bucyrus-Erie shock absorber head. LeRoi four cylinder engine. Machine in good shape. No truck or tools. Price $800.
Box 0354

WISCONSIN—All steel spudder, capacity for drilling to **2000', handles 3000 lbs. of tools.** Continental six cylinder gasoline engine, reverse gears. Derrick 45' high with Bucyrus-Erie rubber shock absorber. Bucyrus-Erie 29-W bull reel, jack shaft, clutches, etc. Catheads and device for handling ram. This machine is in excellent condition and must be seen to be appreciated. Mounted on four wheels, solid tired **trailer. Bargain at $2000.00** for someone who wants to drill deep water wells or for shallow oil production.
Box 3310

Keystone 1½, gear hoist, 4 cyl. Wisconsin motor. Wire line shock absorber. 400' each of ⅝ drill cable and ⅝ sand line. Truck mounted. Solid rubber tires. $400. Frank Sheehy, Cedar Lake, Indiana.

MICHIGAN. Bucyrus-Erie 29-W Spudder mounted on heavy duty truck. Derrick 45' high with rubber shock absorber. 6-cylinder gasoline engine with reversing transmission. Equipped with casing reel. Complete set of drilling, fishing and casing handling tools included for 10" to 5" work. Kohler electric light plant and 24 x 30 steel doghouse. A complete drilling rig for someone who wants to drill oil wells 2000' to 2500'. Also ideal for tailing in and servicing jobs or for drilling deep water wells. Ready to go. Located in Detroit area. Inspection invited. Wm. P. Riley, 14 North Clinton Street, Chicago 6, Illinois. Telephone Franklin 4028.

MISC.

FOR SALE
Turbine pump, 300 GPM, 300 ft. setting for 8" hole, 14 stage bowls, water lubricated, 40 HP hollow shaft motor, 3/60/220/440 volt, 1750 RPM. Pump used only 30 days. Starting equipment and switches included. Pump in southern Wisconsin. Box 0551

FOR SALE
American plunger type deep well head. Enclosed gears running in oil. 18" stroke with 8" cyl. Price f.o.b. Mich. $150. Hamilton Mfg. & Machine Co., Hamilton, Mich.

FOR SALE
Large quantity used wrought iron and steel pipe 2" to 6¼", ⅞ steel sucker rod, Luther pump jacks, several strings 2-3-8 and 2¾-3¾ drilling tools, circle and jacks, elevators, etc. Pipe threading machine ½"-2" capacity. Write: Lester H. Stork, 127 Burns Terrace, Penn Yan, N. Y.

WANTED

WANTED
Complete string tools for drilling six inch holes, jts. either 2x3 or 2¼x3¼. Want good tools. Box 0571

WANTED
Keystone 50, 70 or other make of equivalent outfit complete with 6" and 8" tools, truck mounted. Forward all particulars.
Box 0561

Two 100 ton hydraulic jacks in good working condition. State price.
Box 3912

"Specified as Original Equipment"

MACWHYTE HI-LASTIC WIRE LINE

Yes, Macwhyte "Hi-Lastic" Drilling Lines were specified as original equipment on this group of Bucyrus-Erie drills.

The reasons? Perhaps you know them from experience. More hole at less cost or trouble with "Hi-Lastic." Keeps the bit turning better on all types of formation. Helps reduce the tendency for the hole to get out of round, and for the bit to channel.

Are you planning to purchase new drilling machines when available? Specify Macwhyte "Hi-Lastic" Wire Lines. They've just the *right* elasticity, and are specially made for your job.

Specify These, Too . . .

Macwhyte Standard Tool Lines for deep wells. Special design provides high elasticity . . . and long, hard, sharp blows.

Macwhyte Sand Lines. They are made in coarse laid (6x7) and soft laid (6x19).

MACWHYTE COMPANY

2939 Fourteenth Avenue, Kenosha, Wisconsin

Ad No. 702

*If forwarded to new address, notify sender on form 3547.
Postage for notice guaranteed.
Return and Forwarding Postage Guaranteed
The Driller, South Milwaukee, Wisconsin

DRILLER
A journal for water well drillers

SO. MILWAUKEE WIS. U.S.A.
U. S. POSTAGE
PAID
PERMIT No. 3

The John Crerar Library,
86 East Randolph St.,
Chicago,
Illinois.

*If forwarded to new address, notify sender on form 3547.
Postage for notice guaranteed.
Return and Forwarding Postage Guaranteed

DRILLER

U. S. POSTAGE
PAID